Pepper Variety Trial Evaluation
Immokalee, FL.

Submitted by Monica Ozores-Hampton
University of Florida/SWFREC
June 23, 2010

Table 1. Summary of cultural practices used for variety trial of pepper grown with seepage irrigation in Immokalee, FL. during spring 2010.

Experimental Design	CRBD (4 reps)
Irrigation	Seepage
Plot size/Harvest	10.8 ft
Planting Date	20-January-10
Linear ft per acre	7,260
Bed Spacing	6 ft
Plant population	13,444
Row per bed	2
Bed Height	9 in
Plant Spacing	6.4 in
Bed Width	36 in
Row run	North–South
Harvest Date	
First harvest	22-Apr-10
Second harvest	30- Apr-10
Planting to 2nd pick	14 weeks

Table 2. Sources of seeds

Variety	Company
ACR283	Abott and Cobb
ACR 75311	Abott and Cobb
Allegiance	Harris Moran
Aristotle	Siegers
E41-0591	Enza Zaden
E41-1023	Enza Zaden
E41-3041	Enza Zaden
E41-3088	Enza Zaden
Excursion	Abbott and Cobb
Hunter	Rogers
Myakka	Enza Zaden
PT 9-56	Pepper
PT 7-12	Research
Red Bull	Pepper
Regiment	Research
Tom Cat	Sakata
XPP 6001	Harris Moran
2815	Rogers
7141	Sakata
8302	Seminis

Table 3. Summary of temperature and total rainfall in Immokalee, FL. during the spring 2010 pepper season.

Period	Temperature (ºF)			Total rainfall
	Average	Min	Max	(inch)
Jan-10	56.7	44.5	71.2	2.08
Feb-10	58.0	46.3	71.2	2.68
Mar-10	61.7	48.9	75.3	8.62
Apr-10	71.3	60.8	83.1	7.21
Average/Total	61.9	50.1	75.2	20.59

Figure 1. -Marketable and non-marketable yield categories of first harvest for selected pepper varieties grown in Spring, 2010 at Immokalee, FL.

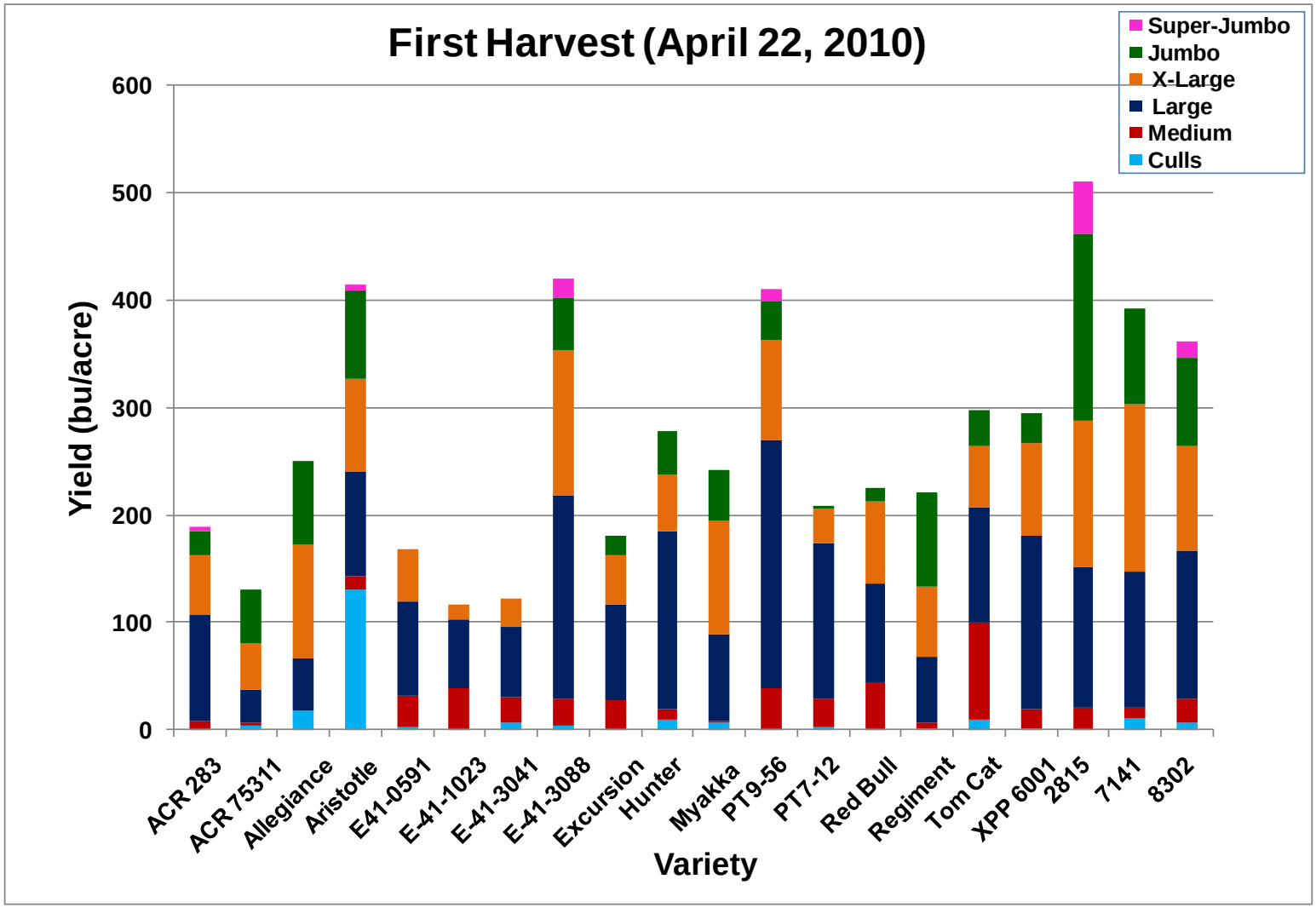

Table 4. Marketable and non-marketable yield categories of first harvest for selected pepper varieties grown in Spring 2010 at Immokalee, FL.

Variety	Super-Jumbo	Jumbo	X-Large	Large	Medium	Culls	Total Marketable
	----------	----------	----------	Yield (bu/acre)	----------	----------	----------
ACR 283	5	21de	57cdef	99cdef	8b	0	189efg
ACR 75311	0	51bcde	43cdef	30f	2b	4	126g
Allegiance	0	78bcd	106abc	48ef	0b	18	232efg
Aristotle	5	82bc	86bcde	97cdef	13b	131	284cdef
E41-0591	0	0e	49cdef	87cdef	29b	3	165fg
E-41-1023	0	0e	14f	64def	38b	0	116g
E-41-3041	0	0e	27ef	65def	24b	6	117g
E-41-3088	18	50bcde	135ab	189ab	24b	5	416ab
Excursion	0	18e	45cdef	90cdef	27b	0	180efg
Hunter	0	bcde	53cdef	165abc	11b	9	269cdef
Myakka	0	47bcde	107abc	81cdef	2b	6	236defg
PT9-56	11	36bcde	94abcd	230a	39b	0	410ab
PT7-12	0	3e	32def	144bcd	26b	3	205efg
Red Bull	0	12e	77bcdef	93cdef	44b	0	225efg
Regiment	0	87b	66cdef	62def	5b	2	219efg
Tom Cat	0	33bcde	57cdef	107bcdef	91a	9	288cdef
XPP 6001	0	29cde	86bcde	161abc	18b	2	293cde
2815	48	174a	136ab	132bcde	20b	0	510a
7141	0	89b	156a	126bcde	11b	11	381bc
8302	15	83bc	98abc	138bcd	23b	6	356bcd
P. value	0.09	0.0001	0.0001	0.0001	0.03	0.37	0.0001
Sig.	ns	**	**	**	*	ns	**

** Significance at P ≤ 0.01 * Significance at P ≤ 0.05 ns Not significant

Figure 2. Marketable and non-marketable yield categories of second harvest for selected pepper varieties grown in Spring 2010 at Immokalee, FL.

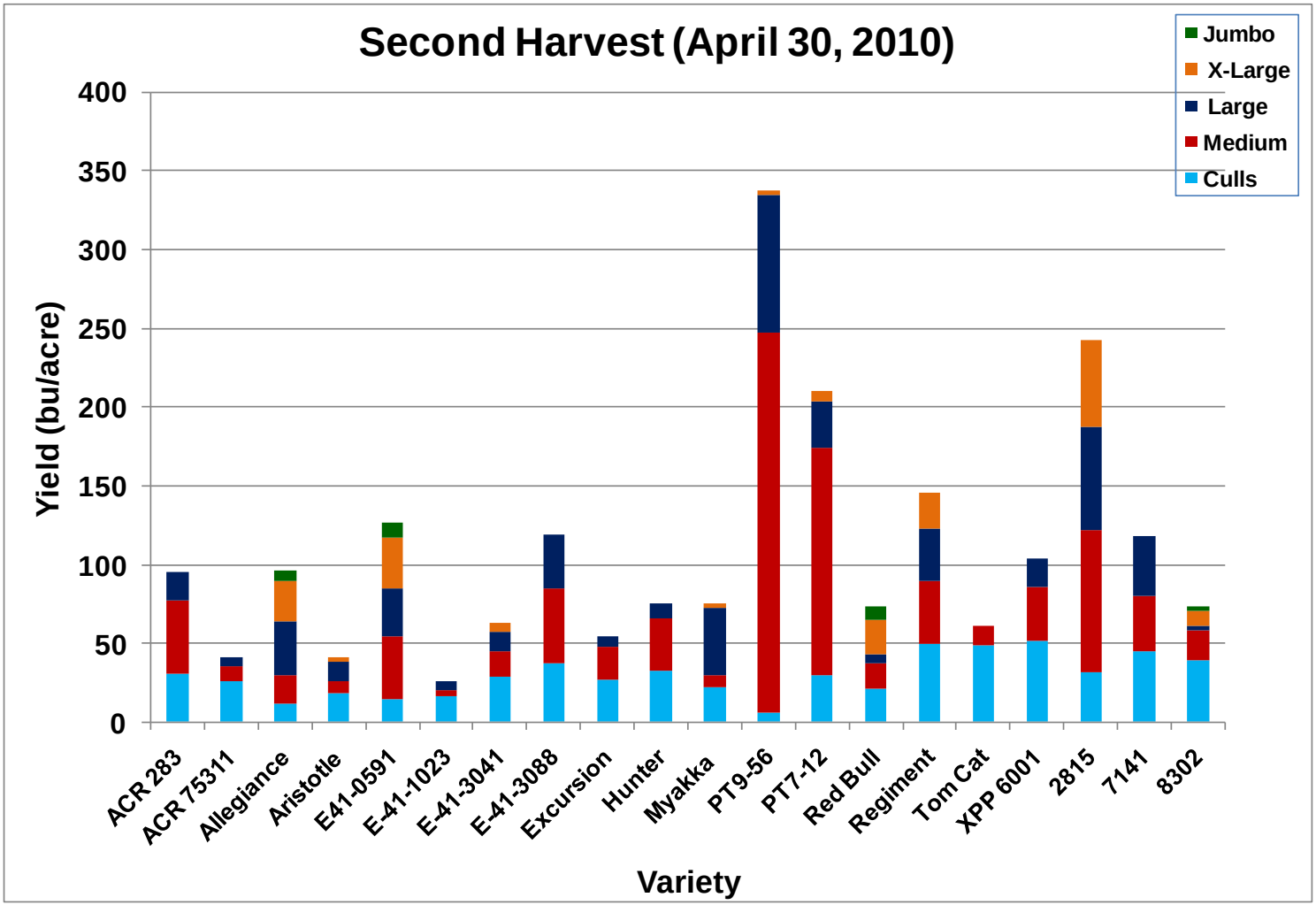

Table 5. Marketable and non-marketable yield categories of second harvest for selected pepper varieties grown in Spring 2010 at Immokalee, FL.

Variety	Super-Jumbo	Jumbo	X-Large	Large	Medium	Culls	Total Marketable
	----------	----------	----------	Yield (bu/acre)	----------	----------	----------
ACR 283	0	0	0c	17cd	47d	30	64cdefg
ACR 75311	0	0	0c	6cd	9d	26	15fg
Allegiance	0	6	26bc	34bcd	18d	12	84cde
Aristotle	0	0	3c	12cd	7d	19	22efg
E41-0591	0	9	32b	30bcd	39d	15	111c
E-41-1023	0	0	0c	6cd	4d	16	10g
E-41-3041	0	0	6c	12cd	17d	29	35defg
E-41-3088	0	0	0c	35bcd	47d	38	82cdef
Excursion	0	0	0c	6cd	21d	27	27efg
Hunter	0	0	0c	9cd	33d	33	42defg
Myakka	0	0	3c	42bc	8d	23	53cdefg
PT9-56	0	0	3c	87a	241a	6	331a
PT7-12	0	0	6c	30bcd	144b	30	180b
Red Bull	0	9	21bc	6cd	17d	21	53cdefg
Regiment	0	0	23bc	33bcd	41d	50	96cd
Tom Cat	0	0	0c	0d	12d	49	12g
XPP 6001	0	0	0c	18cd	35d	52	53cdefg
2815	0	0	55a	66ab	90c	32	211b
7141	0	0	0c	38bcd	35d	45	73cdefg
8302	0	3	9bc	3d	20d	39	35defg
P. Value	-	0.41	0.0002	0.0001	0.0001	0.54	0.0001
Sig.	-	ns	**	**	**	ns	**

** Significance at $P \leq 0.01$ * Significance at $P \leq 0.05$ ns Not significance

Figure 3. Marketable and non-marketable yield categories of first and second harvest for selected pepper varieties grown in Spring 2010 at Immokalee, FL.

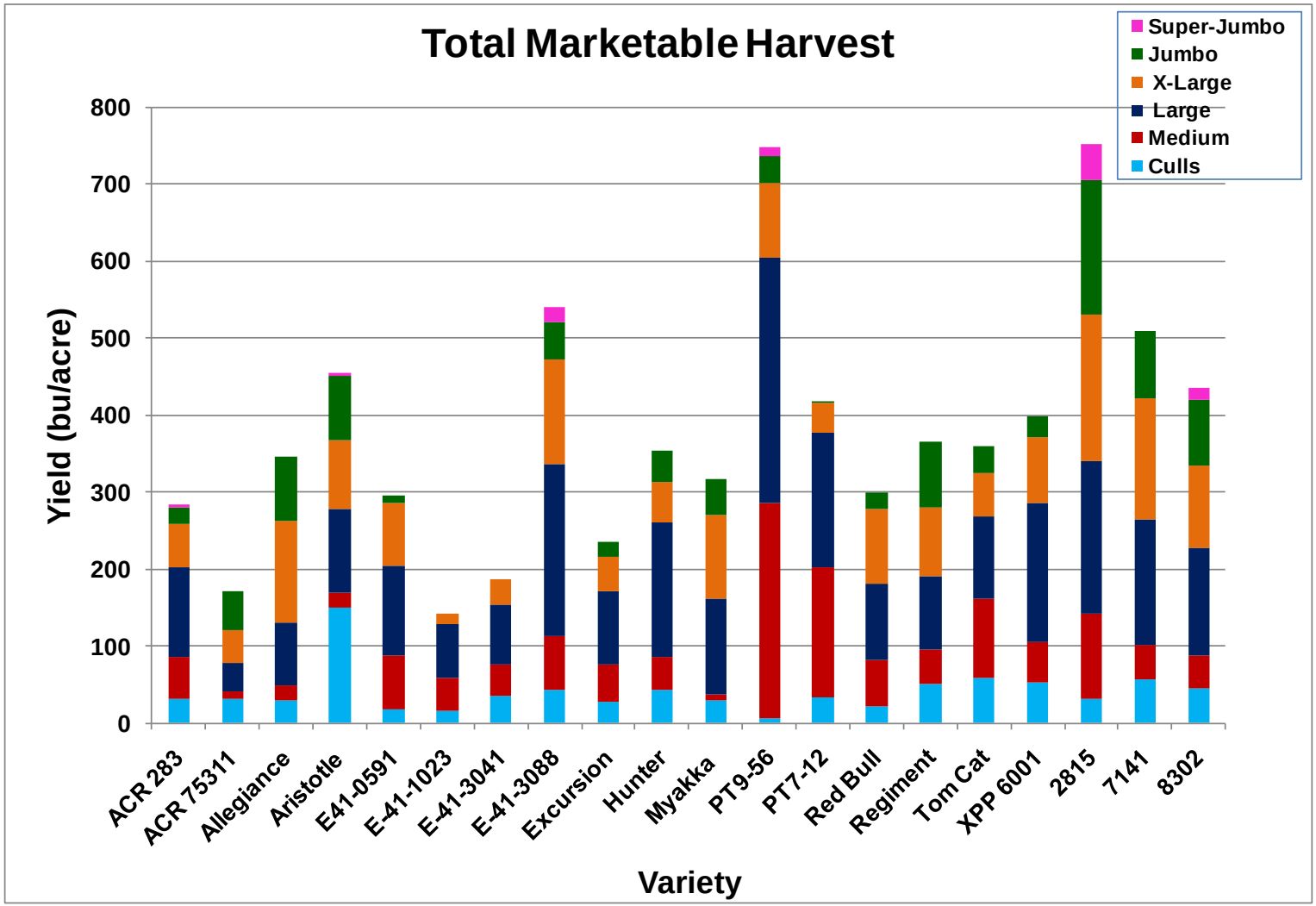

Table 6. Marketable and non-marketable yield categories of first and second harvest for selected pepper varieties grown in Spring 2010 at Immokalee, FL.

Variety	Super-Jumbo	Jumbo	X-Large	Large	Medium	Culls	Total Marketable
	---------- Yield (bu/acre) ----------						
ACR 283	5	21d	57def	116cdefg	55cdefg	30	253defg
ACR 75311	0	51bcd	43def	36g	11fg	30	141g
Allegiance	0	84bc	132abc	82efg	18efg	30	316de
Aristotle	5	82bc	89bcde	110cdefg	20efg	149	306de
E41-0591	0	9d	81cdef	118cdefg	69cdef	18	276def
E41-1023	0	0d	14f	70fg	42efg	16	126g
E41-3041	0	0d	33ef	77efg	41efg	35	151fg
E41-3088	18	50bcd	135abc	224b	71cde	42	497b
Excursion	0	18d	45def	96defg	48defg	27	207efg
Hunter	0	41bcd	53def	174bcd	44efg	42	311de
Myakka	0	47bcd	110bcd	123cdefg	9g	29	288de
PT9-56	11	36bcd	97bcde	318a	280a	6	742a
PT7-12	0	3d	38def	175bcd	169b	33	385bcd
Red Bull	0	21d	98bcde	99defg	60cdefg	21	278def
Regiment	0	87bc	89bcde	95defg	45efg	51	315de
Tom Cat	0	33bcd	57def	107cdefg	103cd	58	301de
XPP 6001	0	29cd	86bcdef	179bcd	53defg	53	346cde
2815	48	174a	191a	198bc	110c	32	721a
7141	0	89b	156ab	164bcde	46efg	56	454bc
8302	15	86bc	107bcde	141bcdef	42efg	45	390bcd
P. Value	0.09	0.0001	0.0001	0.0001	0.0001	0.23	0.0001
Sig.	ns	**	**	**	**	ns	**

** Significance at $P \leq 0.01$ * Significance at $P \leq 0.05$ ns Not significance

Table 7. Quality categories for selected peppers varieties grown in Spring 2010 at Immokalee, FL.

Variety	Lobules (Number)	Length	Width	Ratio	Thickness (in)
		---------- (inches) ----------			
ACR 75311	3.8a	3.6abcd	3.3abc	1.13abcde	0.24ab
Aristotle	3.2abcd	3.5bcd	3.5a	1.00efgh	0.24ab
E41-0591	3.7ab	3.0fg	3.2abcd	0.92fgh	0.21b
E41-1023	3.2abcd	2.9g	2.8e	1.03defgh	0.19c
E41-3041	3.2abcd	3.4bcde	2.9de	1.20ab	0.19c
E41-3088	3.2abcd	2.8g	3.1bcde	0.91h	0.22ab
Excursion	3.1bcd	3.8ab	3.3abc	1.18abc	0.24ab
Hunter	3.4abc	3.3def	3.2abcd	1.04cdefg	0.25a
Myakka	3.6ab	3.1efg	3.5a	0.89gh	0.24ab
PT 9-56	3.3abc	3.7abc	3.1bcde	1.21a	0.24ab
PT 7-12	3.0cd	3.3def	3.0cde	1.15abcde	0.23ab
Red Bull	3.1bcd	3.6abcd	3.0cde	1.24a	0.24ab
Regiment	3.4abc	3.3def	3.3abc	1.01efgh	0.23ab
Tom Cat	3.6ab	3.4cde	3.3abc	1.03efgh	0.24ab
XPP 6001	2.8d	3.6abcd	3.2abcd	1.12abcde	0.23ab
7141	3.6ab	4.0a	3.4ab	1.18abcd	0.23ab
8302	3.2abcd	3.4cde	3.3abc	1.06bcdef	0.23ab
P value	0.02	0.0001	0.0001	0.0001	0.0001
Sig.	*	**	**	**	**

** Significance at $P \leq 0.01$ * Significance at $P \leq 0.05$ ns Not significance

Table 8. Bacterial spot evaluation for selected peppers varieties grown in Spring 2010 at Immokalee, FL.

Variety	Company	Immokalee
Myakka	Enza Zaden	2.9
E41-1023	Enza Zaden	4.6
TomCat	Rogers	3.3
Excursion II	Abbott & Cobb	4.4
PT 9-56	Pepper Research	0.1
E41-0591	Enza Zaden	2.9
Red Bull	Sakata	3.6
8302	Seminis	2.9
Hunter	Rogers	2.9
E41-3041	Enza Zaden	3.9
7141	Seminis	2.0
ACR 283	Abbott & Cobb	4.5
E41-3088	Enza Zaden	2.1
2815	Seminis	0.9
PT 7-12	Pepper Research	1.4
Regiment	Harris Moran	2.9
Allegiance	Harris Moran	3.1
XPP6001	Sakata	2.0
ACR 75311	Abbott & Cobb	3.6

Rating: 0 = No disease, immune; 1 = highly resistant; 2 = moderately resistant; 3 = moderately susceptible; 4 = Susceptible; 5 = highly susceptible

Foliar bacterial spot ratings were performed on January 14 and April 11 at the Immokalee trial. Two ratings were assigned per experimental unit on a 0 to 5 scale with 0 = no disease visible, and 5 = severe bacterial spot throughout entire canopy. Experimental design was a randomized complete block with for replications. Bacterial spot was considered moderate to severe at the time of rating at both locations. Many plants exhibited leaf dehiscence in the lower canopy and leaf necrosis in the upper canopy.